

Detailed Description of the Invention Amendments

Referring now specifically to the drawings, the numeral (1) refers to the transverse disc motor. The motor includes a valve disc (2) with its aperture (3), housing (4), seals (7) and (8), bearings (5) and (6), adjusters (9) and (10), a gearbox (11), a pair of corner gears (12) and (13), a pressure vent (14), and a timing gear (15).

The motor also includes a power disc (16) with its housing (17), its bearings (18) and (19), seals (20) and (21), adjusters (22) and (23), power cups (24), (25), and (26), pressure vents (27) and (28), intake port (29), exhaust port (30), and fly gear (31).

The timing gear (15) and the fly gear (31) have a housing (32), which is fastened to the valve disc housing (4) and the power disc (17).

The materials from which the valve disc motor (1) is constructed will depend on application, metals, ceramics, plastics, etc.

The power disc (16) and the valve disc (2) are timed together by the meshing of the fly gear (31) and the timing gear (15).

Timing gear (15) motion is transferred through the timing gear shaft (33), then through the corner gears (12) and (13), hence to the valve disc (2).

As the power disc (16) rotates ~~(as per the drawings counter-clockwise)~~ clockwise or counter-clockwise, one of the power cups (24), (25), or (26) approaches the valve disc (2). The valve disc (2) is so time with the power disc (16) that the aperture (3) is in the correct position to allow the power cup (24), (25), or (26) to pass through the perimeter of the valve disc (2). As the power disc (16) rotates further, so also does the valve disc (2),

moving the aperture (3) into the valve disc housing (4), closing it. Further rotation of the power disc (16) creates a void between the power disc cup (24), (25), or (26) and the valve disc (2). Liquid or gas may ~~then move or~~ be moved into the void. If the liquid or gas is under pressure, it will drive the motor (1). ~~If the liquid or gas is detonated, this also will drive the motor (1).~~ If the liquid or gas is not under pressure, the motor (1) must be driven. The void becomes a vacuum; a liquid or gas moves through the intake port (29) into the void and will be trapped between the power cups (24) and (25), (25) and (26), or (26 and (24) until the space between the power cups is again intersected by the valve disc (2). At which point, pressure will develop between the backside of the power cups (24), (25), or (26) and the valve disc (2), forcing the liquid or gas through the exhaust port (30). The exhaust process is the same whether the motor (1) is driving or being driven.

The discs (2) and (16) are machined within the closest tolerances possible to their housings (4) and (17). Clearance between the discs (2) and (16) and their housings (4) and (17) is maintained by the use of the tapered roller bearings (5), (6), (18), and (19) and their adjusters (9), (10), (22), and (23). Various condiments may be added depending on the application of the motor, but the configuration and purpose of the discs remains the same, though the discs (2) and (16) do not necessarily have to be at right angles to one another. The pressure vents (14), (27), and (28) allow for bypass gases or liquids to escape the motor, preventing them from passing by the seals (7), (8), (20), and (22) and contaminating the bearings (5), (6), (18), and (19) or their lubricants.

~~The foregoing is considered as illustrative only of the principles of the invention.~~
~~Further, since numerous modifications and changes will readily occur to those skilled in~~

~~the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.~~

The valve disc (2) does not have to be perpendicular to the power disc (16). The valve disc (2) being at an angle to the power disc (16) other than ninety degrees may be desirable in certain applications both for the purpose of mechanical efficiency as well as the outward configuration of the motor (1).

The transverse disc motor (1) may also have multiple valve discs, (2a) and (2b), etc., for the purpose of increasing the performance of the transverse disc motor (1). It should also be said here that any material passing through the transverse motor disc (1) should enter and exit so as to further facilitate the rotation of the valve discs (2a) and (2b), etc. The transverse disc motor (1) may also have multiple power discs (16) and (33), etc. running either clockwise, counter-clockwise, or both. One power disc (16) may rotate counter-clockwise and a second power disc (33) may rotate clockwise. In this configuration, the amount of material pressing against the surfaces of the valve disc (2) remains the same per the number of power discs (16), (33), etc. As the power disc (16) rotates counter-clockwise and one of its power cups (24), (25), or (26) approaches the valve disc (2), it is so timed as to pass through the valve disc (2) aperture (3), which is also rotating. The valve disc (2) continues to rotate the aperture (3), so that the pressure or vacuum chamber (38) of the power disc (16) is closed. The continuing rotation of the valve disc (2) then opens the pressure/vacuum chamber (39) of the power disc (33), allowing one of its power cups (36), (37), or (38) to pass through the aperture (30) of the valve disc (2). Both pressure/vacuum chambers are then actuated simultaneously by means of the intake ports (29) and (40) and whatever valve system may be desirable causing the pressure on the valve disc (2) bearings (5) and (6) to be reduced to zero.

Any number of valve discs (2a), (2b), etc. and power discs (16), (33), etc. rotating either clockwise or counter-clockwise could be used in the construction of the transverse disc motor (1).